



SARD-SC

Support to Agricultural Research for
Development of Strategic Crops in Africa

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PMU retreat held amidst applause for laudable achievements with a focus on phase 2

The SARD-SC Project Management Unit (PMU) held its 2016 annual retreat recently in Abuja with staff of all the implementing centers—the International Center for Agriculture Research in the Dry Areas (ICARDA), AfricaRice, and the International Food Policy Research Institute (IFPRI)—in attendance. The retreat assessed what was done in the previous year and planned ahead for the new year. Dr. Chrys Akem, project coordinator, said the meeting was a critical one because the project was at its winding down phase with the hope to earn a second phase from the African Development Bank (AfDB), the project's sponsor. Discussions were open and forthright on project issues while solutions were sought to seemingly knotty issues.

In his preamble before the meeting started in earnest, the project coordinator urged the commodity specialists to ensure the project completion report was completed by the end of the year. He commented on the Bank's commendation of the project as "one of the best managed projects with over 80% disbursement rate. AfDB is happy the project is on track," he said.

The tone of the meeting was set with the review and adoption of the minutes of the



SARD-SC PMU members.

last retreat held in October 2015 in Abidjan, Cote d'Ivoire. This was followed by a one-by-one review on the status of the action points from the Abidjan retreat by Dr. Akem. The points were deliberated upon and checked for implementation by the house. The status of the implementation of the mid-term review recommendations was critically examined point by point especially relating to out-scaling/disseminating of technologies and youth engagement by all the commodities: cassava, maize, rice, and wheat.

Presentations were made by all representatives of participating centers. Reports from the monitoring and evaluation and socioeconomic meeting were presented by Drs Issaka Amadou and Paul Dontsop on cassava and maize value chain impact plans. Messrs Somado Attiogbevi-Kafu, M & E specialist for rice and Yameogo Ouambi, M & E specialist for wheat, presented impact plans for the two commodities, while Tanguy Bernard presented IFPRI plans on farmer groups and impact. Mr. Steve Kiingi, Project

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PSC values project for its science and as a potential to be part of TAAT

Members of the SARD-SC Project Steering Committee (PSC) met in IITA, Ibadan to review progress on project implementation and advise on changes to strategic orientations. In attendance at the meeting were the project coordinator, commodity specialists, and a representative of the International Food Policy Research Institute (IFPRI). The eleven-member PSC meeting was chaired by Dr. Yemi Akinbamijo, Executive Director of the Forum for Agricultural Research in Africa (FARA). The meeting took place from 30 to 31 March 2016.

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Project Steering Committee Members.

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Agricultural Business Specialist, gave an update on market linkages. Mrs Zulfawu Yahaya, procurement specialist presented the status of commodity procurement plans for cassava and maize commodities while those of rice and wheat were presented by Abdou Mohammed and Anis Boukadida, respectively. Mr. Seyi Fashokun, project accountant gave financial updates on budgets for cassava and maize value chains while Cheikh Abdella and Wahid Zakhama gave presentations on rice and wheat, respectively.

Another important area of focus at the retreat was how the project could earn a second phase (SARD-SC project phase 2), hence working group sessions and discussions were

held on commodity focus. To foster intra-institutional collaboration, networking and team building, group discussions were held on various topics across implementing centers of the project.



Dr Akem.

... PSC meeting values project for its science and as a potential to be part of TAAT from page 1

While welcoming other members of the committee and SARD-SC project commodity specialists led by Dr. Chrys Akem, Dr. Akinbamijo said he appreciated the SARD-SC project for its scientific thrust and potential to be a part of the "Feeding Africa agenda," which is the Africa Development Bank's new initiative to transform African agriculture. He also stated that with the project's current expenditure at over 70%, the deliverables, outcomes, and impact should be made manifest to the farmers.

Dr. Akinbamijo advised the project to find a way of integrating sub-regional organizational institutions and ensure proper documentation of the innovation platforms and their members. "At this stage of the project, off-takers of the developed technologies, processed products, and varieties ought to have been identified as well as the beneficiaries," he said. Dr. Akinbamijo reiterated the importance of the SARD-SC project to be part of the 2006 agenda.

One of the ways of reviewing the project is to have commodity specialists present each commodity's achievements to the committee. The review started in earnest with Dr. Chrys Akem, Project Coordinator, who gave a summary of project achievements. Some of the enumerated key achievements and outcomes are: effective engagement of stakeholders which has led to the establishment of functional IPs for the four value chains, private sector operators including financial institutions, policy at local and national levels, empowerment of youth and women-skill development, and entrepreneurship. Others are enhanced availability of productive and income-generating technologies, capacity development of key stakeholders along different value chains, and infrastructures and equipment development.

In attendance at the meeting were all commodity specialists: Dr. Marie Yomeni,

Cassava Commodity Specialist, Dr. Sam Ajala, Maize Commodity Specialist, Dr. Sidi Sanyang, Rice Commodity Specialist, and Dr. Solomon Assefa, Wheat Commodity Specialist. Each of the SARD-SC project commodity specialists made presentations on the achievements of their respective commodities. Every presentation was critically analyzed by the PSC members, followed by valuable suggestions on how to improve presentations and make the project have more impact on target beneficiaries.

Dr. Tanguy Bernard of the International Food Policy Research Institute (IFPRI) also made a presentation on policy/market updates.

For good documentation of the achievements, the committee advised that there was the need to also include numbers for each achievement to ensure that targets are met. "Linkage with programs by Conference des Responsables de Recherche Agronomique Africains (CORAF) must be demonstrated.

There is need to tap into the CORAF network to broaden the project outcomes. One way to push the linkage will be to get the list of all beneficiaries fit into the SRO data template. There is the need to have a two-day innovation fair that will bring together SROs, banks, private sectors, government as well as policy makers to demonstrate the project's achievements. This will enable the SROs to buy into the achievements in their respective countries," Dr. Akinbamijo advised.

Dr. Ken Dashiell, the DDG, Partnership and Coordination, thanked the chairman for the excellent words of advice to improve project implementation. He encourage all participants to continue putting more efforts in their work "until we see this project yielding more other projects." The next meeting will be hosted by the International Center for Agricultural Research in the Dry Areas (ICARDA) in November 2016.



Cassava

SARD-SC project helps SAPP to spread cassava improved varieties beyond its zones of intervention

Since the inception of the SARD-SC Cassava project in Zambia, great strides have been made in transforming the lives of the target beneficiaries across the project's catchment areas in Serenje, Mansa, Samfya, Kasama, and Kaoma Districts of Zambia. The project currently promotes the growing of improved varieties and the variety extensively grown is Mweru. It is a sweet variety with a maturation period of approximately 18 months, compared with the local varieties that take, on average, 24 to 36 months to mature.

Promotion of cassava by SARD-SC has rejuvenated the cassava agenda in Zambia and has seen a significant forging of relationships that aim at improving the livelihoods of rural farmers across and beyond the project catchment areas. For example, IITA-Zambia has partnered with

the Seed Certification and Control Institute (SCCI). This partnership has facilitated the establishment of seed multiplication fields across the project areas, hosted by farmers following strict guidelines and standards, coupled with regular monitoring to ensure adherence.

The fields that were established under the SARD-SC project have started to provide the much-needed supply of seeds to other districts under a new project, the Smallholder Agribusiness Promotion Programme (SAPP), cassava Intervention. This covers an additional six Districts, reaching a much greater population in the northern and north-western parts of the country. This partnership is important because of the dearth of knowledge that exists among farmers on the importance of growing high yielding and disease resistant varieties.

On 3 December, 2015, when IITA successfully launched SAPP that aims at improving linkages along the cassava value chain, the SARD-SC project had already made significant strides in setting up seed multipliers across the country and thus ensured that improved varieties were already being grown on a large scale in the country. In Kasama District, we had a registered SCCI seed grower supplying cassava cuttings to Mbala and Chinsali Districts where a partner project (SAPP) had activities being implemented.

It is these significant synergies that the SARD-SC Cassava project continues to register within and outside project areas. The impact of the project has become significant in that other areas beyond the project scope are benefiting as well. A significant number of farmers in the northern part of Zambia have been captured under the multiplication exercise. It would be important to note that female farmers that have been captured, either as individuals or as groups, are now seed growers.

As at the end of January 2016, a total of 12 ha of cassava multiplication fields had been established in the Northern and Muchinga Provinces of Zambia with a direct linkage to the SARD-SC fields that were grown by SCCI and the Host Seed Farmers under the auspices of IITA.

Similarly, IITA under the SARD-SC project had set up 1 ha of agronomy trials in Serenje District in the 2013/2014 and



SARD-SC host seed grower (SCCI field) – Samfya District.



Mr Sinkana Godadi on his 1ha field.



Female-led farmers' group - Mungwi District.

2014/2015 seasons. These agronomy trials are being hosted on-farm by a smallholder farmer (Mr Minsula Chiboli). After the project had collected data for analysis from the trial field that had been established in the 2013/2014 season, the field was passed on to the host farmer and he has since been permitted to establish his own cassava fields and sell additional cuttings as well as mature roots to other interested farmers.

The farmer has so far managed to sell sufficient cuttings to the SAPP project to establish 4 ha of cassava fields in Mpika District, Muchinga Province. In addition he

also sold 23 bags of 50 kg of dried cassava chips to traders from the neighboring Mkushi District in Central Province. They in turn process the cassava chips in a mill into flour which is sold for preparing *nshima*, a traditional staple food in the northern regions of Zambia.

In addition to receiving financial gains through the project the farmer has also used the opportunity to host a cassava field day that was organized by the Serenje IP. The Senior Chief Chibale of Serenje District was invited as the Guest of Honour and the Acting District Commissioner of Serenje was also in attendance.



Cassava roots.

Cassava Value Chain in Sierra Leone steps up



SARD-SC cassava farm in Sierra Leone.

The SARD-SC project held a national Innovation Platform (IP) meeting at the Ministry of Agriculture, Forestry and Food Security (MAFFS), Bo District office, southern Sierra Leone, to chart the way forward for cassava value chain activities in the country. The meeting was attended by 19 representatives of the youth from over 19 chiefdoms across the country, 13 District Agricultural Officers representing MAFFS, the regional national IP executives, the President of the National Farmers' Federation of Sierra Leone (NaFFSL), the Director of Extension Services at the Ministry, staff from IITA- Sierra Leone, and the SARD-SC Cassava Commodity Specialist, Dr Marie Yomeni.

In his address, the host District Agricultural Officer, Bo District, Joseph Saidu Bangura urged all to be cogent in articulating the challenges they face in cassava processing and production.

He said if the challenges were well articulated, the Ministry, donor partners, and other supporting agricultural institutions and organizations would be

able to bring out positive results that would inform policy decisions.

In his opening statement, the Director General of MAFFS, Francis Abdul Rahman Sankoh thanked the IITA team for their role in transforming the face of cassava productivity.

He said the intervention of IITA in the promotion of the cassava value chain in Sierra Leone had now opened an opportunity for the local gem (cassava) to be processed into various forms across the country. He repeated that the Ministry could not do it alone, and that was the reason IITA was committed to MAFFS to support institutions for the improvement of agriculture in Sierra Leone.

He reiterated that the Ministry had endeavored to create several sectors that would deal with the needs of farmers across the country. He noted that the Ministry needed a quick turn-round on agricultural activities, while adding that they would want to see these activities duplicated in institutions that would stand the test of time.

"Our Minister is ready to work for the farmers," he said, and asked all present to give their support to the IITA/SARD-SC project for revitalizing a well-intended sustainable strategy for the cassava value chain in the country through IPs. "IITA/SARD-SC is not introducing new ideas. They are coming in to add more value in a much improved manner to what has already been in existence," Sankoh said.

Sylvanus Fannah, the project's Agronomist Natural Resource Manager, urged farmers to work hand in glove to move the process forward. He said that the attitude of a majority of the farmers had compounded the problems for growth in the sector as a result of the "dependency syndrome culture in our farming communities." This was a seriously damaging factor and a key problem for the growth of agricultural productivity in our current operational context.

The Cassava Commodity Specialist for the SARD-SC program, Dr Marie Octavie Yomeni implored all to seize this available opportunity and asked farmers in Sierra Leone to re-focus their minds to understand the concept of the cassava value chain and IP for their own benefit.

Dr Yomeni stated how pleased she was to see the various cassava-based food products being displayed by the Rogbane IP Coordinator, Ismail Bangura from Binkolo Growth Center. She expressed her desire to see more displays of products by various cassava processing factories at similar meetings in future. She indicated that IITA's success in Sierra Leone was a collective effort of everyone and the Ministry.



Dr Yomeni

Project Empowers Women in Zanzibar

Women empowerment can be described as “having increased life options and choices, gaining greater control over one’s life, and generally attaining the capability to live the life one wishes to live”, according to Mahmud et al. (2012), whereas Kabeer (1999) considers women empowerment as “an expansion in the range of potential choices available to women so that actual outcomes reflect the particular set of choices which the women value.” Borrowing from the two authors, empowerment signifies a change in the capability of women and this is what IITA/SARD-SC has contributed to the lives of women in Bumbwini, Zanzibar.

When a group of women in the isles were asked whether the innovation platform (IP) established under IITA/SARD-SC project has brought any changes to their livelihoods, they almost responded in unison “Yes”. Specifically, the women said the establishment of the IP has brought about an increase in their income due to rise in cassava productivity as a result of using improved varieties and good agricultural practices. They also got an opportunity to learn how to develop other products from cassava (chips and chips) and cassava flour (confectioneries). They sell their products to shops (as wholesale) and to individuals (retailing), while other customers come to them for the products.



Mwanaisha Mohamed smiling while showing her cellular phone bought from cassava income.

Mwanaisha Mohamed, Kijakazi Haidari, and Asia Abubakar all from Bumbwini say they have no regrets participating in the IITA/SARD-SC project and being members of the IP. “My income has increased through selling cassava flour and cassava chips”, said Mwanaisha. “I have even bought a cellular phone which I, otherwise, could not have managed if it were not for this initiative”, she said with a smile on her face. Mwanaisha says she also manages to give pocket

money to her children when they go to school and can attend to other family necessities from her own income.

“I am no longer depending on my husband for everything. I have my own income through which I take care of the family like buying school uniform and kitchen equipment”, Another woman, Kijakazi Haidari, said all matters which required money were previously left in the hands of her husband including buying a 250 g packet of salt. “The project has earned me respect as I can address some of the family issues which require cash”, boasted Kijakazi.

“I don’t ask my husband for money anymore when children need new school uniforms or shoes, I handle such cases by myself”, said Asia Abubakar with confidence. “I used to depend on my husband even for very minor cash requirements, but now that is history”, she added. Similar stories were also told by a couple of other women at Bumbwini including Miza Makame and Maua Khamisi who admitted that since the IITA/SARD-SC project reached them, their lives have not remained the same. “We thank IITA through SARD-SC project for empowering us. We now get more respect from our husbands because we assist in reducing burdens from their shoulders through our earnings”, said Miza in conclusion on behalf of other women.

Project represented at the Lake Tanganyika Zone Investors’ Forum

Lake Tanganyika zone comprises three regions namely Kigoma, Rukwa, and Katavi which are in the western part of Tanzania. On 9 September 2015, the zone organized the 3rd investors’ forum with a central theme of “Linking investment opportunities to local and international markets” at which IITA/SARD-SC Tanzania was represented. The forum was attended by over a hundred participants including Hon.

Christopher Chiza (Minister for Investment and Empowerment) and two permanent secretaries (from the Ministry of Investment and Empowerment; and the Ministry of Transport). Also in attendance were the regional commissioners (for Katavi, Kigoma, Rukwa, and Tabora), district commissioners, ambassadors from Burundi and Democratic Republic of Congo, representatives from the Belgium High Commission, private investors, and representatives of different programs.



Tanzania Vice President, His Excellency Dr. Mohamed Bilal (Seated middle) with other government officials.

The event was officiated by the Vice President of the United Republic of Tanzania, His Excellency Dr. Mohamed Ghalib Bilali. A total of eight papers were presented including one from IITA/SARD-SC Tanzania. During the presentation, a summary of IITA/SARD-SC project activities and impact in Tanzania was presented which made the audience aware of the presence of IITA/SARD-SC in Tanzania.

At the end of the forum, different people approached the team to inquire more about SARD-SC and how they could be incorporated into the program. These included policy makers and top officials from Buhigwe District—

the District Commissioner, Mrs. Mary Tesha-Onesmo, District Executive Director Mr. Simon Mumbbee, and District Planning Officer Mr. Charles Mduma. They requested that Buhigwe District be taken on board should IITA/SARD-SC think of scaling out its research activities. They also committed themselves to supporting the multiplication of improved cassava planting material if the opportunity arose.

Not only did the SARD-SC presentation draw the attention of policy makers it also caught on the interest of other participants such as that of both the director and the manager of Bensa Elight

Farm. The two officers expressed their readiness and willingness to collaborate with the project in the cassava value chain, particularly in the area of dissemination of seed of improved varieties. Similarly, the director of another organization, Rapid Environmental Recovery and Agricultural Innovation (RERAI), also wanted to cooperate with SARD-SC project in upgrading the cassava value chain.

In a nut shell, the 3rd the Lake Tanganyika Zone investors' forum created an important avenue for SARD-SC Tanzania to sell itself among participants who came from both the government and private sector.

A new cassava processing center built in Tanzania

The efforts of the SARD-SC project to promote the processing of cassava in Tanzania have received a major boost with the completion and handing over of newly constructed facilities for a training centre on cassava processing by the contractors on 27 January 2016. The center includes an equipment fabrication workshop, a cassava processing center, and offices.

The buildings, situated on the IITA land donated by the Government of Tanzania in Kwembe, about 30 km from Dar es Salaam, was funded by the Support to Agricultural Research for Development of Strategic Crops in Africa (SARD-SC) project. This is a multi-national CGIAR-led project, funded by the Africa Development Bank and led by IITA.

The buildings are part of the project's efforts to support the generation of agricultural technology and innovations through the construction of improved facilities that support efficient dissemination of postharvest cassava processing technologies to the farming communities.

On hand to receive the building was Dr. Edward Kanju, a senior scientist at IITA Tanzania on behalf of the Director for the IITA eastern hub, Victor Manyong. He appreciated the effort, support, and cooperation of the contractors and thanked them for a job well done. In turn he handed over the certificate of completion to Claude R. Shikony, the Director of Finance and Administration for Intercity Builders Limited

Also present at the event was Dr. Veronica Uzokwe, the Country Coordinator of IITA/SARD-SC project. Dr. Uzokwe noted that the center would go a long way in supporting efforts to disseminate cassava postharvest innovation/technologies and value addition. This in turn will contribute to improving food security to overcome hunger, improve livelihoods, and lift up the country from poverty.

She said the training center would bring together stakeholders from across the country for theoretical and practical lessons on postharvest cassava processing technologies. "The project is

complete and ready to operate; we hope that IITA will get more funds for operational efficiency" said Dr. Uzokwe.

According to Mr Bakari Abdallah, IITA/SARD-SC Research Assistant, the project has purchased improved cassava postharvest processing machines that will be installed in February 2016.

"We have already purchased equipment such as a hummer mill, fryers, hydraulic presses, and peeling and chipping machines ready for installation in the cassava processing building. The machines will speed up the processing of high quality cassava production compared to local technologies." said Mr. Bakari.

Others present at the handing over ceremony were Ms Zulfawu Yahaya, IITA/SARD-SC Procurement Specialist; Clare Ruhweza, IITA Regional Maintenance Officer and Gilbert Kimboka, Assistant Maintenance Officer at IITA-Tanzania, Davis Mwakanyamale- SARD-SC Country Supervisor, and Onugbolu Onyekachi, a consultant quantity surveyor from IITA Ibadan, Nigeria.



New processing center at Kwembe.



Maize

Maize component lauded at planning workshop for perfecting IP approach for enhancing productivity



Dr. Sam Ajala at Maize workshop in Ghana.

The planning meeting and workshop of SARD-SC Maize Project attracted over 50 stakeholders from six countries: Cameroon, DR Congo, Ghana, Mali, Nigeria, and Zambia. The participants were NARES, researchers, farmers, IP representatives, staff from the IITA maize team, members of Maize Associations, and the project's Country Coordinators. The meeting was held from 3 to 8 April, 2016, in Accra, Ghana.

During the workshop, the work activities in previous years were rigorously reviewed and progress being made in member countries was assessed. The four-day event contained in-depth analysis, discussion, and assessment of every

component of the Maize Program and also several presentations. It provided an opportunity to interrogate and proffer solutions to problems militating against the smooth implementation of the maize component of the project in Nigeria, Zambia, Ghana, and Mali.

The 2016 Annual Review and Planning Workshop was graced by presence of the Director of IITA, Southern Africa Hub –Dr David Chikoye –who represented the Director General of IITA, Dr Sanginga. Dr Chikoye began his remarks by welcoming the delegates from DR Congo and Cameroon who were participating in the event for the first time. He stated that the modest achievements being recorded by the project were yielding unexpected multiplier effects that were attracting the interest of several agencies and countries in requesting for inclusion. The expansion of the maize component into new locations was in line with IITA's philosophy of extending its resources and skills to serve Africa and also recognition of IITA's capacity to help to feed Africa and grow wealth for the continent.

The representative of the DG informed participants that IITA was considering and processing the requests from other countries for inclusion in the project. In concluding his remarks, Dr Chikoye stated that IITA would continue working with various partners while remaining committed to aligning its thrusts for Integrated Agricultural Research for Development (IAR4D) with the national development agenda of the countries it serves in sub-Saharan Africa.

In his Welcome Address, the Project Coordinator who was represented by Dr Abebe Menkir, IITA Maize Breeder, commended the SARD-SC project for the strides it had made in each of the commodity value chains and for perfecting the use of the IP approach. In his words, "I am very pleased to see the project expanding and perfecting its area of emphasis which is increasing the productivity of maize, cassava, wheat, and rice using this multi-stakeholder platform. I want to commend those responsible for the excellent progress being made. The fact is noteworthy that the project has been able to draw from the diversity of expertise to make it work and thus has built the foundation for Phase 2." He therefore, encouraged all to work harder in achieving project expectations, "because we are at the last stretch of the project."

Dr Sam Ajala, the SARD-SC Maize Commodity Specialist, extolled the importance of maize as a versatile crop used for so many purposes, and said the meeting was to enable the Country Coordinators to work assiduously with their teams to draw up their work plans for the year as well as to appraise project achievements in each of the member countries. He therefore, appealed to them to do a good job of planning, drawing upon the experiences of participants from the private sector to accomplish project expectations. In the words of Dr Sam Ajala, "This is the moment to tell ourselves some home truths about our work." He reeled out the expectation of the workshop which was the development of robust work plans that put more money in the pockets of smallholder farmers being served by the project. He acknowledged the uneven progress being made across project countries and enjoined participants, especially the Country Coordinators, to take particular interest in the comments of the various stakeholders present at the workshop to refine each country's work plan for 2016.

The workshop had an elaborate technical session during which several papers were presented on the activities of the SARD-SC maize component.



Cross section of participants at maize workshop in Ghana.

The presentations covered different aspects of the program in all four countries. Dr Ajala presented an overview of maize achievements under the project entitled *Accelerating maize transformational impact in Africa* which set the stage for the technical presentations that followed. Some of the major achievements were 2000 seed drops that accelerated the diffusion of improved seeds and maize production practices across project communities; 174 maize varieties were realized, new maize products were developed, Focus Group Discussions were held that guided the development of maize-based products acceptable to consumers, and the use of IPs, among others.

His paper emphasized the linkages for accelerating maize transformational impact in Africa and options for elevating the competitiveness of the product and markets. He underscored the value of building partnerships for linkages with organizations that use maize as a raw material, such as Maize Associations (MAAN, NAMSAG, SEEDAN, etc.) in the four countries. The paper highlighted the efforts of SARD-SC Maize in developing Maize Associations across member countries and showed how the Associations could be deployed to resolve inherent problems in productivity and marketability and other issues related to the maize value chain.

The presentations covered all aspects of enhancing maize productivity such as molecular tools and novel genes to aid breeding for multi-stress tolerant maize; technology testing and fine tuning; regional trials of improved maize varieties; and agronomic options for yield enhancement in all the four countries. Also included were operationalizing the IPs for better impact; production and promotion of breeder and foundation seeds of improved stress tolerant maize; diversification of household and industrial utilization of maize in Nigeria, Mali, Ghana, and Zambia; and youth engagement in IPs, among a host of others.

During the workshop, delegates from each country were grouped and worked as a team in break-out sessions to deliberate and developed draft work plans for their respective countries. Dr Amare Tegbare, SARD-SC project Gender Specialist, presented a paper on gender mainstreaming in the project. He advised that the project should consider gender-specific preferences in technology generated and any form of farming mechanization should address drudgery and efficiency for the benefit of women. "We need to see women-led seed companies, and the need to focus on seed companies to enhance their capacities to gender package their products," he said.



Nigerian maize team in discussion.

Mr Seyi Fashokun, Project Accountant and Mrs Zulfawu Yahaya, Procurement Officer made presentations on their respective areas. The workshop came to a close with an admonition from Dr. Ajala to all participants to work very hard when they got back to their respective countries "as if the project would end tomorrow."

At the end of the workshop, it was agreed that efforts on Component 1 of the project should be scaled down while Component 3 was expanded to enhance the visibility and impact of the project which obviously called for scaling up media and communication support.



Partners and stateholders of SARD-SC maize component.

Maize Component three-day pre-planning meeting

A three-day pre-planning meeting by maize project Country Coordinators and IITA staff was held in Accra during the third week of February. The objective was to discuss in advance major issues for consideration for the project's annual meeting to be held in April 2016 in Ghana. The meeting attracted 10 participants and involved presentations by Dr Sam Ajala, the Maize Commodity Specialist and Dr Issaka Amadou, the Monitoring and Evaluation Specialist.

It was chaired on the first day by Dr Asamoah Larbi, the IITA Country Representative in Ghana; the sessions for the next two days were chaired by Dr Ajala.

The M&E Specialist presented an overview of the SARD-SC project. He provided details on the impact pathway and the strategies, activities, and implementers. Both old and new output indicators were also discussed to guide project staff on the kind of data or information required for reporting on project activities. The Implementation and Progress Results (IPR), as the new reporting format to be used for implementation, monitoring, and rating of AfDB public-sector operations, was also highlighted.

Dr Ajala made a presentation on *Accelerating maize transformation impact in Africa* with the constraints to maize

production in Africa and the possible solutions.

By way of comments, Dr Larbi suggested the inclusion of a nutrition output in the list. Members discussed what research could do and suggested the use of improved varieties especially those with tolerance to drought and other abiotic and biotic stresses.

The need to raise plant population density as a means for increasing yield was also emphasized. This meeting provided an insight into what was to be expected during the maize annual planning meeting and workshop to be held later in April, 2016.

Farmers commend SARD-SC maize component for introducing drought resistant varieties in Nkoranza municipality



Women engaged in harvesting of seed maize.

The maize component of the SARD-SC project has successfully introduced two improved short duration drought resistant varieties of maize –Omankwa and Abontem- into the Nkoranza south municipality of Ghana. These two varieties are doing excellently well and are being commended by farmers for their early maturing nature and ability to withstand drought.

Omankwa was the first short duration drought resistant variety which was first introduced to beneficiary farmers for the mini-kit demonstration in 2013. Twenty five mini-kit demonstrations were established, that is five in each of the intervention community. Consequently, the farmers' interest was further stimulated, resulting in an increase in the number of demos from five per community to ten. It resulted into a total of fifty demos in 2014.

It is worthy to mention that in 2014 an additional variety (Abontem) was also introduced together with Omankwa. Farmers saw the early maturing nature of these two varieties as well as their ability to withstand drought. Now these two varieties have become household names in maize cultivation and production not only in the Nkoranza south municipality but the entire Brong-Ahafo region which is accredited to SARD-SC project. The farmers commend the maize component for the success of the two maize varieties in their municipality. Farmers and maize farm lands are now

less vulnerable to the harmful effect of climate change with the introduction of these two improved drought resistant varieties. Consequently, the farmers are now able to make more money from their farmlands.

However, farmers in other areas who saw the success of the two varieties and the increased income they have engendered for farmers in demonstration plots have expressed interest in the two drought resistant varieties. They came to the office of the Department of Agriculture to register their names at the out-set of the season to be considered for a kilogram of seeds to multiply and use on their own.

In 2014 for instance, two hundred and fifteen farmers came to register for consideration and currently, some have

been able to multiply their seeds and able to cultivate 5-10 acres on their lands. In 2015, seven hundred and eighty (780) farmers were registered and supplied with one kilogram each of seed maize. It must also be noted that the number of mini-kits demos mentioned are the numbers planted and monitored by the Agricultural Extension Agents (AEAs) involved in the SARD-SC project.

The IITA- Support to Agricultural Research for Development of Strategic Crops in Africa (SARD-SC), started full activities in the Nkoranza south Municipality in 2013. A base line survey and community analyses were conducted in the municipality after which twenty five (25) mini-kit demonstrations were established (five in each of the five intervention communities).



National service personnel sorting seed maize after harvesting.

SARD-SC maize component supports the launch of Ghana maize association for transformational impact

Maize is the most important cereal grain in terms of total production and utilization, with the bulk of the production being used for human consumption in Ghana.

With yields about 1.7 tonnes/ha, which is comparatively lower to what is produced in other countries, prominent people along the maize value chain came together to form a national association of maize to increase maize productivity and profitability. The National Maize Association of Ghana (NAMAG) was launched on Tuesday 8 March 2016, in Kumasi, Ghana.

The launching attracted many important personalities, as well as various stakeholders such as input dealers, farmers, poultry farmers, and agro-processors from far and wide in the country. In his welcome address, Dr. K. Obeng-Antwi, SARD-SC Maize Country Coordinator, articulated the importance of the Association as one of the ways to push up productivity and form alliances with various users of maize in order to create profitable marketing and business links.

"It is therefore, incumbent upon us, as major stakeholders to pool our resources together for a more effective use of available resources to benefit ourselves and our country. It is in the light of this that the AfDB-funded Support to Agricultural Research for Development of Strategic Crops in Africa (SARD-SC)" project wishes to join hands with the maize association to accelerate maize transformational impact in Ghana."

Dr. Obeng-Antwi said the project believes that one major approach to realizing its set objectives is to establish strategic alliances that link researchers;



The newly elected interim executives of NAMAG.

link producers to inputs and finance; link end – users to producers and create new market potentials and opportunities.

In his remarks at the event, Dr. Sam Ajala, SARD-SC project Maize Commodity Specialist, bemoaned the low maize output in Ghana and the attendant market fragmentation which continually traps the majority of local farmers in poverty. He said maize is the third most important crop in the world.

For a transformational impact in Ghana, Dr. Ajala advised the stakeholders to "grow maize competitively and in areas best suited for it. You need to address issues of the right type of fertilizer to use for planting, what quality of seeds to plant, the fragmented maize market, and then you should strategically place maize to feed the local poultry industry and for food security. There is a need to create a market-led business for maize by creating the demand which will in turn increase production and productivity."

Mr. Kwaku Minka Fordjour, Ashanti Regional Director of Agriculture, said the Association would be the mover of maize production in Ghana. He called on the Country's Ministry of Agriculture to provide the necessary extension services and technological support to the farmers. Mr Asante Krobeah, Director of Crop Services, Ghana, reiterated the importance of maize to food security in the country as the current 1.7 tonnes/ha was not enough to feed the nation.

"With concerted effort, our national output can be increased, so the idea of a maize association is heartwarming, bringing all maize actors on the value chain on board to achieve a common goal," he said.

NAMAG was officially launched by Mr Oppong -Adjei, National President of the of Poultry Farmers Association, and an interim executive was elected to run the association until the time a substantive executive is put in place .



The official launch being performed jointly by the President of the National Poultry Farmers' Association and the Director of Crop Services of MOFA.

Revamping soybean cultivation in Nigeria through SARD-SC project

The IITA/SARD-SC planning workshop for maize system enhancement was held at Abuja in February to revamp soybean cultivation and utilization in Nigeria. The workshop became necessary because of the imperative need to ensure effective complementary crop management options that improve soil fertility and enhance maize yields. Furthermore, the annual huge demand for 2.2 million t of soybean and the concurrent production of only 600,000 t emphasized the need to bridge the gap.

To brainstorm on the strategies to enhance soybean cultivation, eminent soybean scientists from Research Institutes, together with farmers, poultry farmers, representatives of seed companies, and other interested stakeholders, were in attendance at the workshop. They presented papers and deliberated on the way forward to enhance production.

Soybean is a complementary crop for the maize commodity value chain. The SARD-SC project is expected to identify and mobilize the strength, expertise, and resources of stakeholders in the maize - soybean value chain, among other things. In his opening remarks,

Dr Chrys Akem, SARD-SC project Coordinator, reiterated the importance of soybean and bemoaned the current low level of cultivation of the legume in the country. "Few people know that I was a soybean scientist for five years before my present job. There was a time when we produced so much that we did not know what to do with the quantity until we got the IDRC to help us with utilization.

So this workshop is an opportunity for us to find our way back to those glorious old days when we had a surplus and to revamp soybean cultivation as a companion crop to maize." Dr. Akem enumerated the many advantages of soybean as a food and for nutritional security in Africa and the many existing high yielding varieties with



Left: Dr Kolawole Ojo, Soybean Scientist, and Right: Dr Sam Ajala at the workshop.

good resistance to rust. He mentioned the opportunity for market linkages through the Innovation Platforms while challenging the growers and poultry feed millers to maintain the sustainability of the industry."

Dr Sam Ajala, Maize Commodity Specialist, stated the objectives of the workshop, which included the need for the participants to map a clear and focused goal for the crop in the few years, and also introduced business-led models to market soybean. In his paper, Enhancing soybean production within the SARD-SC maize project in Nigeria, Professor Kolawole Ojo, SARD-SC Soybean Scientist, stated the economic importance of the crop and the



Dr Mrs Oyom.

complementarity of the maize-soybean system. "Soybean improves soil fertility through the fixation of atmospheric nitrogen. Processed soybean are the world's largest source of animal feeds and the second largest source of vegetable oil," he said.

Prof. Ojo gave an insight into the direction of the crop under the SARD-SC project as follows: improved maize and soybean production / utilization technologies are generated; dissemination/promotion of improved technologies is ensured; food and nutrition security are enhanced, and a contribution is made to reducing poverty in Nigeria. Some of the operational strategies required to achieve these lofty aims as projected include partnerships with national and international institutions, seed companies, processors, farmers,

NGOs, and extension workers, among others. Some of the steps to enhance soybean production are capacity building of value chain actors and the generation and promotion of preferred maize / soybean varieties that could be adapted to various agro-ecologies and have tolerance to major biotic and abiotic stresses.

At the workshop were eminent scholars and top-shots from the Ministry, such as Dr Obinna George Opara, Dr Segun Ojo, Director General of NASC, and Dr Patience Oyom, Desk Officer, FDA. Dr Oyom presented a paper on Collaboration pathways and support for commodity associations by FMARD; and advised the participants to establish a vibrant National Soybean Association and appoint interim leaders as one of the fundamental steps to revamping soybean cultivation and securing assistance from the Ministry. Other eminent scholars who delivered papers at the workshop were Prof. Peter Oyekan, retired IAR&T soybean scientist, and Dr A.A. Adegbite, Director of Institute of Agricultural Research and Training, Moor Plantation, Ibadan.



Eminent soybean scientists.

Rice

SARD-SC rice component launches GEM parboiler facility for women processors to increase productivity



Women in Glazoue IP preparing paddy for parboiling.

The rice component of the IITA/SARD-SC project in collaboration with AfricaRice and INRAB has installed energy efficient GEM rice parboiling technologies and innovations in the Malanville Innovation Platform (IP) in the irrigated rice ecology of northern Benin Republic. The formal launching of the Malanville IP on 9 February 2016 attracted almost 1000 women from all corners of the country and witnessed the presence of policy-makers such as the Mayor of Malanville and of Gaya, Niger. It also provided an additional policy incentive to the operationalization of the IP.

The Grain Quality Enhancer is energy efficient and constructed of durable material. To efficiently use and manage rice technologies (the GEM facility), 538 women rice parboilers including 10 from Gaya in Niger were trained on processing and value adding to locally produced rice.



Training youth on Grain quality Enhancer, Energy, efficient and durable Material technology (GEM) parboiler in Glazoue IP.

Over a period of two months, these women from households have learned skills on rice parboiling and value addition as well as the management of the GEM parboiling facility.

The training alone resulted in 8 t of quality parboiled rice which is already attracting consumers within and outside the Malanville community. As part of the IP process, 12 young people (10 male and 2 female) are being facilitated to learn various skills on rice processing and value addition and the operation of equipment and farming tools.

The formal opening was attended by the IITA/SARD-SC Coordinator, Dr Chrys Akem. He remarked that, in general, the SARD-SC project had challenges in effectively addressing gender equity – the active involvement of women in project activities. The deployment of the GEM rice parboiler in the Malanville IP has fully demonstrated that pairing gender sensitive technological innovation with institutional changes can bring about significant gender mainstreaming in programs and projects for agricultural productivity.

The Malanville IP also received a milling machine and other farming equipment from AfricaRice through the Japan Emergency Project. One of the young men of the Malanville IP who was trained on the use of farming equipment indicated that he realized rice farming could be enjoyable with appropriate machinery and not a burden. He has been motivated to start his own rice farm with the help given to household farms.

The Mayor of Malanville, Dandakoe Inoussa said, “The GEM parboiler and other forms of technology and innovation should be rolled out in northern parts of Nigeria close to Malanville, as well as Gaya in Niger, because we are the same people. We share the same values and culture and can easily share and learn productivity enhancing technologies and innovations to improve livelihoods.”

To date, women in over 1000 households have been reached through the GEM technology and innovations in two IPs in Bénin. The GEM technology is being rolled out in combination with enhanced packaging and branding of locally produced rice to attract urban rice consuming households and thus contribute to raising the incomes of women and employment opportunities for the youth in the rural economy. Already, Nasarawa in Nigeria and Gaya in Niger, in consultation with their respective research institutes, have asked for the GEM technology and innovation; these will be deployed in Nigeria and later in Niger.

Immediate outcome from on-farm testing of good agricultural practices with farmers

The on-farm testing of a basket of good agricultural practices (GAP) with farmers has started to change rice productivity in farmers' fields.

The rice value chain is beginning to record some life-changing success stories in its quest to improve the productivity and profitability of the commodity for farmers.

When the rice team, supported by SARD-SC funds, started on-farm demonstrations of GAP, Fatma was one of the participating farmers. The idea was that rice yields and profits could be substantially improved by improving some basic elements.

Together with the other farmers, Fatma followed a training on bunding and leveling, use of improved and certified seeds, line sowing, fertilizer application, and timely weeding using rotary weeders. She was asked to apply what she learned in one-half of her 1-acre rice field, to compare it to her usual practice in the other half.

"I was very surprised to see how many bags I harvested from that part of the field where I applied what I had learned in the training workshops," she declared. "I got more than 11 bags from only half of the field [8.5 t/ha]!" Indeed she more than doubled her rice yields by following some basic principles of GAP.

"The rice is also of very good quality and I got a good price for it on the market" Fatma continued. "I earned much more this year than in the previous years and I was able to change the roof of my house from grass to tin sheets, pay school fees for my two children and my family's medical bills without any problem!"

Fatma is one of our champion farmers. With 8.5 t/ha she produced the highest yield among the group of farmers that we worked with. Even so, other participating farmers also tremendously increased their yields in this way.



Fatma Ngavemela is a rainfed lowland rice farmer from a village called Idete, in the Kilombero valley, central Tanzania. She has been growing rice for the past 20 years but achieving low yields and low profits. "I usually got around 9 to 10 bags of rice per acre [3.5 t/ha] from my field," says Fatma.

The average rice yields harvested by farmers this year was 5 t/ha where they had applied GAP compared only 2 t/ha in the part of their fields where they grew rice according to their usual practices. Moreover, the farmers who participated showed a keen interest in continuing with these technologies in their farms. In the words of our champion farmer, Fatma, "I would like to expand rice cultivation from my current 1.25 acres to 3 acres."

The interesting thing about the type of technologies that has been demonstrated to farmers in the Kilombero Valley is that they are accessible and affordable; they can be learned quickly and applied with relatively little financial investment. During the farmers field days we organized with around 180 farmers from nearby villages, Fatma, our champion farmer from Idete, was requested by many of the visiting farmers to reveal her secret.

A formal survey held among 151 of these farmers who were exposed to these practices proved the enormous potential of this approach. These farmers picked at least one of the GAP to apply in their

own farms in the coming season. "I was so surprised to see how good Fatma's rice was!" declared Yasin, one of her neighbors who participated in the farmers field days. "I have already asked her about the variety and whether it fetches a good price on the market.

I want to learn about the other practices as well and follow her advice." Like this farmer, the great majority that we interviewed mentioned that they were encouraged by the demonstration plots they had seen. Among them, 95-100% adopted line planting and timely weeding while 50-60% declared they used certified seeds, inorganic fertilizers, and rotary weeders.

Although some of the farmers involved in last season's demonstrations indicated that the lack of family labor and limited accessibility of seeds and rotary weeders discouraged them from using these technologies, they had already obtained better yields by applying some of the other, more affordable practices.

As Stella, one of the participating farmers, explained: "I used line planting and fertilizers for my rice and this resulted in a very good crop. I had never done this before but it really improved my yields this year!" Indeed, the set of practices is flexible and can be adapted to the farmer's individual situation; implementation of just one or two of the improved practices already results in a positive effect on rice yields.

For Fatma, the debate is closed. She will now apply the lessons learned to all her fields, expecting more yields and more profits from her farm, and she will surely continue to inspire other farmers around her.



Mayor of Malanville Dandakoe Inoussa giving certificates to trainees.



Youth engagement in the IP process.

Wheat

A shift from petro-dollar to agro-economy:
Nigerian government to triple area under
wheat to 300,000 ha in 2017



Minister for Agriculture and Rural Development Chief Audu Ogbe, His Excellency Governor Abdullahi Umar Ganduje of Kano State and Governor of Kebbi State, Abubakar Atiku Bagudu in a wheat farm in Alkamawa.

The SARD-SC wheat project organized a national field day with its local partners and the Federal Minister of Agriculture on 12 March 2016 at Alkamawa, Kano State under the patronage of His Excellency President Muhammadu Buhari who was ably represented by the Federal Minister of Agriculture and Rural Development, Honorable Audu Ogbeh. Also guests of honour at the event were His Excellency the Governor of Kano State Hon Abdullahi Umar and His Excellency the Governor of Kebbi State Hon. Atiku Bagudu.

The field day was attended by over 1000 stakeholders (about 700 male and 300 female), including parliamentarians, senior federal and state government officials, farmers, extension specialists, researchers, representatives of nongovernmental organizations, input suppliers, millers, youth and women groups engaged in project wheat value chain activities, and invited guests from the International Center

for Agricultural Research in the Dry Areas (ICARDA).

At the event, the Honorable Minister highlighted his government's support to wheat production by providing input (fertilizer and seed) and equipment such as combine harvesters, motor pumps, and credit to farmers. He expressed his satisfaction to SARD-SC wheat project for the new high yielding varieties, producing 5–6 t/ha which has made wheat production competitive. The Honorable Minister stated that the country expects to harvest 350,000 tonnes of wheat from the total 100,000 ha of wheat planted during the 2016 cropping season.

The Minister further said, "Today, Nigeria is spending over US\$ 4.6 billion every year on wheat importation and domestic production accounts for less than 7 percent of the country's annual wheat requirements." He added that since Nigeria has the land and

water resource, this importation was 'totally unacceptable,' and the way to stop this is through transforming rural economies by transforming agriculture.

The Governor of Kebbi State highlighted the importance of early planning saying that to achieve the targeted 300,000 ha under wheat cultivation in 2017, the problem of seed must be solved early and the importation of key equipment should start now.

All speakers concurred that Nigeria is on the right direction to becoming self-sufficient because of the recent successful collaboration between the Lake Chad Research Institute (LCRI), the Institute for Agricultural Research (IAR), and ICARDA and its partners in the SARD-SC project, which led to the release and dissemination of several high yielding and heat tolerant wheat varieties (such as Norman, Reyna 28, Reyna 15 CROW'S) with grain yield of up to 5–6 t/ha, contrasting with the country average yield of 1.5–2 t/ha.



Dr Solomon Assefa, Coordinator SARD-SC wheat project, receives an award on behalf of the project from the governor of Kebbi State Hon. Abubakar Atiku Bagudu.

The Minister revealed that for nearly 40 years, Nigeria had tried to produce wheat of accepted quality without success, but that hurdle had now been crossed. The new wheat varieties introduced from ICARDA also meet the required end use quality and as a result, the Nigerian Millers Association officially submitted a written commitment to

the Ministry stating that they would buy all the wheat produced in the country during this season through the new initiative.

Speaking during the forum, the SARD-SC wheat project coordinator, Dr. Solomon Assefa, said that with the new high yielding and heat tolerant wheat varieties, and

excellent work with farmers and the private sector in the milling and baking industry, Nigeria can and will significantly reduce and eventually stop the unsustainable wheat import, increase income for farmers and stakeholders, create job opportunities for youth and women, and alleviate poverty.



Youth threshing wheat manually.

ICARDA SARD-SC high yielding and drought tolerant wheat varieties impact lives of farmers in Nigeria

Bala's Story

Bala Yahaya is a wheat farmer from Kadawa, Kano State in Nigeria. From his eight hectare wheat farm, he is able to take very good care of his large family. In fact he has sent one of his sons abroad to study French while his other three children are in college and secondary schools in Nigeria. However, things were not always this way.

"Previously I used to harvest just 22 of the 100 kg bags per hectare of wheat, and because of this low output, I reduced the portion of my farm under wheat to just one or two hectares per season," says Bala. On the rest of his land he cultivated vegetables and maize.

Bala has been a farmer for the past fifteen years. Previously he sourced seeds from the local market and practiced traditional farming methods. Three years ago, however, he started getting improved drought-tolerant wheat varieties from the Institute of Agricultural Research (IAR) through the SARD-SC project.

"With the new varieties, my harvest increased to 35 bags per hectare and this motivated me to increase the size of my land under wheat." He currently grows wheat on eight hectares. And whereas he previously didn't have a ready market to sell his wheat, that was sorted when the State Government of Kano and the Flour Millers Association committed to buy all the wheat produced in the area during the 2016 harvest period. Although there is no price agreement with the State, Bala



Bala Yahaya.

hopes that they buy at US\$125 per 100 kg bag, since at that price he says he will make a good profit.

In the meantime, his family has been trained on making bread, pasta, and cakes. With a little credit, his family could diversify to process and market the wheat products by themselves and sell them directly to local markets where the demand is huge.

Bala Yahaya is one of the 5000 farmers in Nigeria benefiting from interventions of the ICARDA SARD-SC project. Nigeria,

one of the three hub countries for SARD-SC, currently spends US\$4.6 billion on wheat importation. With funding from the African Development Bank, so far four new high yielding and drought tolerant wheat varieties have been released to farmers. These varieties are producing between 4 and 6 t/ha, a much higher yield, compared to average yield of 1–2 t/ha with the conventional varieties.

The project has enlisted 5000 farmers in Nigeria alone to participate in the on farm adaptive trials, quality and technology verification, and multiplication of the new high-yielding varieties. ICARDA SARD-SC has also provided equipment and heavy machineries to the farmers including four seed cleaners, four mechanized bed planters, two motorized reapers, 60 sprayers, 30 spaghetti making machines, three ovens, four flour making machines, a generator, and three dough mixers.

The ICARDA SARD-SC project has also provided 40 tonnes of wheat seeds to farmers and offered several in-country trainings to them. The project has also developed the capacity of researchers through short courses overseas and fulltime scholarships for PhD and MSc degrees.

The ICARDA SARD-SC project works with IAR, the Lake Chad University, wheat growing states, the private sector, and other partners to develop new seed varieties, test and deliver better agronomic practices to farmers, and assist in the marketing of their produce.

Delivering gender equitable benefits from improved wheat technologies

Wheat is increasingly a strategic crop grown as a cash and subsistence crop in many dryland communities in Africa. In those communities, men and women have different roles, needs, and interests due to socio-cultural differences, economic, and religious factors which often put them at a disadvantaged position.

The SARD-SC project is prioritizing the needs and interests of women in the wheat value chain by focussing on their increasingly important roles in wheat production, value addition, and postharvest, and their potential in helping to build more prosperous communities. One of the project's main objectives is to increase annual household incomes from US\$360 to US\$600.

The project is keen on empowering women to increase their household income. For the project, gender equality makes economic sense and therefore it strives to ensure that knowledge generated through the project has a positive and equitable impact on both women and men.

Increasing household incomes through women

Ensuring women and men increase their income generation potential in wheat systems is performed through a variety of interventions. Through the SARD-SC project, women are growing seeds for income generation and solving seed availability issues in their communities as individuals and as groups in Ethiopia, Nigeria, and Sudan.

The project applies interventions specifically in value addition, market creation, and training on reducing postharvest losses from 30 to 15%. These are applied through the three hub countries as well as the other sub-Saharan countries. Most notably, the project is capitalizing on women's innovations. For example in Nigeria, women are turning wheat, which the flour mills cannot buy due to their inferior quality, into pasta.

The project is now providing machinery and up scaling this innovation through training on pasta making and creating subsequent markets.



Mrs Habsiou, a representative of women from Niger, speaking during the country's wheat field day.

The path towards gender integration

Integrating gender equality into programs is not easy. Gender imbalances are entrenched at many levels in the households, communities, and state. Reversing this requires intervention at the household, technical, services, and marketing domains. In each of the three hub countries, women are provided with support from male leaders and husbands to access services such as microcredit, and technical training in seed production and value addition.

Further, researchers, staff and scientists who may have limited prior exposure to gender issues, are being trained by the SARD-SC gender focal points in

order to adopt simple steps, like having separate focused group discussions for women and men and comparing results to design gender-specific interventions and approaches. In Nigeria, for example, threshing and milling machines were introduced in project sites based on the demands of women.

SARD-SC gender integration strategies

The project has put in place a number of strategies to increase involvement of women in the project to its set target of 30%. These strategies include:

- Increase opportunities and capacities of women to participate in wheat value addition and processing, with a focus on baking bread and cakes, and making pasta.
- Conduct research with a gender lens and implement gender disaggregated reporting related to participatory varietal selection, income generation, and participation in training.
- Strengthen capacity with a gender dimension through short trainings and long-term scholarships for SARD staff at the national and IP site levels
- Build in depth understanding of context and factors that promote gender equality in the wheat value chain.

In 2015 the project directly built the capacity of 4713 women in seed multiplication and value addition, postharvest handling, field exposures, skills development in baking and machines operations, and variety selection.

Country	No. of women	Nature of activity
Ethiopia	3,078 Women	Seed multiplication and value addition, Training of trainers and field days
Niger	686 Women	Postharvest handling and participatory wheat selection
Sudan	365 Women	Skills development in baking and machine operations and participation in seed growing and farmer field schools
Tanzania	254 Women	Farmer field days
Nigeria	190 Women	Seed system training, farmer field days, and gender focussed group discussions
Zimbabwe	153 Women	Pre-summer season training and wheat growing practices
Mali	60 Women	Variety selection and field days